

a reference voltage generating circuit having a ladder resistance circuit to which a plurality of resistors are connected in series, which outputs a plurality of voltages divided in the ladder resistance circuit as a plurality of gamma-corrected reference voltages;

a plurality of first impedance conversion circuits which performs impedance conversion on the plurality of reference voltages from the reference voltage generating circuit and outputs the converted voltages;

a voltage selection circuit having a plurality of analogue switches one of which is turned on based on grayscale data, which selects one of the plurality of reference voltages from the plurality of first impedance conversion circuits;

a second impedance conversion circuit which performs impedance conversion on a voltage from the voltage selection circuit and outputs the converted voltage;

a first switching element for blocking an output of the second impedance conversion circuit;

a first bypass line for shorting input and output lines of the second impedance conversion circuit;

a second switching element provided on the first bypass line;

a plurality of third switching elements for blocking an output of the plurality of first impedance conversion circuits;

a plurality of second bypass lines for shorting input and output lines of the respective plurality of first impedance conversion circuits; and

a plurality of fourth switching elements provided on the respective plurality of second bypass lines,

wherein the first switching element is turned on and the second switching element is turned off in a first period of a charging period, and the first switching element is turned off and the second switching element is turned on in a second period of the charging period which follows after the first period; and

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wherein the plurality of third switching elements are turned off and the plurality of fourth switching elements are turned on at least in a final stage of the second period, and the plurality of third switching elements are turned on and the plurality of fourth switching elements are turned off in the other periods of the charging period.

Please add the following new claims:

17. (Newly Added) A voltage supplying device comprising:  
a reference voltage generating means having a ladder resistance circuit to which a plurality of resistors are connected in series, for outputting a plurality of voltages divided in the ladder resistance circuit as a plurality of gamma-corrected reference voltages;  
a plurality of first impedance conversion circuits which performs impedance conversion on the plurality of reference voltages from the reference voltage generating circuit and outputs the converted voltages;  
a voltage selection means having a plurality of analogue switches one of which is turned on based on grayscale data, for selecting one of the plurality of reference voltages from the plurality of first impedance conversion circuits;  
a second impedance conversion circuit which performs impedance conversion on a voltage from the voltage selection means and outputs the converted voltage;  
a first switching element for blocking an output of the second impedance conversion circuit;  
a first bypass line for shorting input and output lines of the second impedance conversion circuit;  
a second switching element provided on the first bypass line;  
a plurality of third switching elements for blocking an output of the plurality of first impedance conversion circuits;

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a plurality of second bypass lines for shorting input and output lines of the respective plurality of first impedance conversion circuits; and

a plurality of fourth switching elements provided on the respective plurality of second bypass lines,

wherein the first switching element is turned on and the second switching element is turned off in a first period of a charging period, and the first switching element is turned off and the second switching element is turned on in a second period of the charging period which follows after the first period; and

wherein the plurality of third switching elements are turned off and the plurality of fourth switching elements are turned on at least in a final stage of the second period, and the plurality of third switching elements are turned on and the plurality of fourth switching elements are turned off in the other periods of the charging period.

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cont

18. (Newly Added) A method for supplying a voltage comprising:  
providing a reference voltage generating circuit having a ladder resistance circuit to which a plurality of resistors are connected in series;

outputting a plurality of voltages divided in the ladder resistance circuit as a plurality of gamma-corrected reference voltages;

performing impedance conversion on the plurality of reference voltages from the reference voltage generating circuit and outputting the converted voltages by a plurality of first impedance conversion circuits;

providing a voltage selection circuit having a plurality of analogue switches;

turning on one of the plurality of analogue switches based on grayscale data, which selects one of the plurality of reference voltages from the plurality of first impedance conversion circuits;

performing impedance conversion on a voltage from the voltage selection circuit and outputting the converted voltage by a second impedance conversion circuit;

blocking an output of the second impedance conversion circuit by a first switching element;

shorting input and output lines of the second impedance conversion circuit by a first bypass line;

providing a second switching element provided on the first bypass line;

blocking an output of the plurality of first impedance conversion circuits by a plurality of third switching elements;

shorting input and output lines of the respective plurality of first impedance conversion circuits by a plurality of second bypass lines; and

providing a plurality of fourth switching elements provided on the respective plurality of second bypass lines,

turning on the first switching element and turning off the second switching element in a first period of a charging period, and turning off the first switching element and turning on the second switching element in a second period of the charging period which follows after the first period; and

turning off the plurality of third switching elements and turning on the plurality of fourth switching elements at least in a final stage of the second period, and turning on the plurality of third switching elements and turning off the plurality of fourth switching elements in the other periods of the charging period.

19. (Newly Added) The method as defined in claim 18 further comprising turning off the plurality of third switching elements and turning on the plurality of fourth switching elements throughout the second period.

20. (Newly Added) The method as defined in claim 18 further comprising supplying a power source voltage to the plurality of first

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impedance conversion circuits and turning off a fifth switching circuit in  
synchronization with an off operation of the third switching element.

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